



BEST PRACTICES

HANDLING FRESH PRODUCE IN SCHOOLS

Fruits and vegetables are an important part of a healthy diet. Introducing children to them in schools will improve their present and future health. Fresh produce must be handled safely to reduce the risks of foodborne illness. There are a number of steps that foodservice employees can take to minimize the chances for fruits and vegetables they handle to become contaminated. Best practices for handling all types of produce are described in this fact sheet, along with practices specific to leafy greens, tomatoes, melons, and sprouts.

Contamination of produce with harmful microorganisms can occur at all stages of production, processing, transportation, storage, preparation, and service. To prevent foodborne illness, fresh produce needs to be handled with care at each step from farm to table.

Recommendations For Handling Fresh Produce

PURCHASING AND RECEIVING

- Use purchasing specifications that include food safety requirements, such as maintaining produce at the proper temperature, maintaining clean and pest-free storage areas and delivery vehicles, and complying with federal and state food safety laws and regulations.
- Ensure suppliers are getting produce from licensed, reputable sources.
- Check storage and handling practices of vendors.
- Establish procedures for inspecting and accepting or rejecting incoming deliveries. Procedures should include checking the condition of the fresh produce and the transportation vehicles to make sure specifications are met.

WASHING AND PREPARATION

- Inspect produce for obvious signs of soil or damage prior to cutting, slicing, or dicing. When in doubt about damaged produce, either cut away the affected areas or do not use the item.
- Wash produce before serving or cutting using either:
 - Continuous running water.
 - Chemical disinfectants, used according to the manufacturer's label instructions for recommended concentration and contact time. *Note: Do not soak produce or store in standing water.*
- Do not rewash packaged produce labeled "ready-to-eat," "washed," or "triple washed."
- Wash thoroughly with hot soapy water all equipment, utensils, and food contact surfaces that come into contact with cut produce. Rinse, sanitize, and air-dry before use.

HAND HYGIENE

- Wash hands thoroughly with soap and water before handling or cutting fresh produce. Rewash hands after breaks, visiting restrooms, sneezing, coughing, handling trash or money, or anytime hands become soiled or otherwise contaminated.
- Use a barrier such as gloves, deli paper, or an appropriate utensil to touch ready-to-eat produce. *Note: This does not eliminate the need for frequent proper handwashing.*
- Always wash hands before putting on disposable gloves.
- Change disposable gloves anytime the gloves may have been contaminated or when changing tasks.
- Do not wash or reuse disposable gloves.
- Change disposable gloves if they are torn or damaged.



SERVING

- Do not store produce in direct contact with ice or water while on display on serving lines and salad bars.
- Mark the time when cut produce is displayed without refrigeration. Display cut produce for a maximum of 4 hours if not in a refrigeration unit or containers surrounded by ice. Discard any uneaten produce at the end of 4 hours.
- Create safe salad bars and self-service lines by taking the following actions:
 - Protect food with sneeze guards or food shields in a direct line between the food and the mouth or nose, usually 14 to 18 inches above the food.
 - Use cleaned and sanitized long-handled tongs, spoons, and ladles so bare hands do not touch food and the utensils do not drop into the serving pans.
 - Change utensils periodically.
 - Set up the salad bar or self-service line as close to mealtime as possible to reduce the time that produce sits out.
 - Keep cold foods at or below 41°F in a refrigeration unit or surrounded by ice.
 - Monitor and document the internal temperature of self-service items every 30 minutes as with other foods on the service lines.
 - Clean up spills promptly. Wiping cloths should be stored in sanitizing solution and laundered daily.
 - Teach children salad bar etiquette. Assign an adult to monitor the salad bar and self-service line to make sure the customers—especially children—are not touching food with their hands, tasting food while in line, putting their heads under the sneeze guard, or returning food items.
 - Clearly label all salad dressings and other containers to discourage tasting.
 - Never add freshly prepared food to food already on salad bars and self-service lines.

STORAGE

- Maintain produce at the temperature recommended for the variety and particular stage of ripeness.
- Store produce at least 6 inches off the floor, including in walk-in refrigerators.
- Store produce in a covered container and above other items that might cause contamination.
- Follow manufacturer's instructions for the product such as "keep refrigerated" or "best if used by."
- Establish a policy for produce that is cut in-house to specify how long the refrigerated cut product may be used. Mark the product with "prepared on" or "use by" date.
- Wash produce just before preparation, not before storage.

TRAINING AND GENERAL FOOD SAFETY PRACTICES

- Develop training programs to teach the importance of food safety and proper handling of produce to all food handlers.
- Practice good food safety and food handling techniques to prevent cross-contamination.

Recommendations For Specific Types Of Produce



MELONS

- Avoid using whole melons that have visible signs of decay or damaged rinds (such as mechanical damage or cracking) due to the increased risk that harmful bacteria may have contaminated the melons.
- Wash the outer surface of the melon thoroughly under running cool tap water to remove surface dirt. Scrub melons with a clean produce brush before cutting. Cut away any bruised or damaged areas before serving.
- Discard cut melons after 4 hours if maintained at 41°F or above; if possible, display cut melons in a refrigerated case, not just on top of ice.
- Display cut melons for a maximum of 4 hours without being kept cool with refrigeration or ice and discard uneaten melons at the end of 4 hours.
- Mark the date on refrigerated cut melons to indicate that they must be consumed or discarded within 7 days.



TOMATOES

- Do not wash tomatoes in cold water. Use wash water temperatures that are at least 10°F warmer than the internal tomato temperature to prevent exterior bacteria from entering the interior of the tomato during washing.
- Ensure whole tomatoes are free from obvious signs of soil and skin damage, such as punctures, prior to cutting, slicing, or dicing. Either cut away any bruised or damaged areas, or do not use the tomato.
- Hold tomatoes at 41°F or below after cutting, including during display on serving lines and salad bars.
- Ensure the temperature of tomatoes purchased as fresh-cut (i.e., sliced, diced, or chopped) is 41°F or lower upon delivery and the tomatoes were kept cool continuously during transport. Reject fresh-cut tomatoes delivered at a temperature higher than 41°F.
- Mark the date on refrigerated cut tomatoes to indicate that they must be consumed or discarded within 7 days.
- Do not store cut tomatoes in direct contact with ice or water.



LEAFY GREENS

- Do not use leafy greens with visible signs of decay or damage because there is an increased risk of the presence of harmful bacteria. When in doubt about the use of decayed or damaged product, either remove the unusable portions or do not use the leafy greens.
- Do not rewash packaged produce labeled "ready-to-eat," "washed," or "triple washed."

SPROUTS

Due to the increasing number of illnesses associated with eating raw sprouts, the Food and Drug Administration has advised all consumers—especially children, pregnant women, the elderly, and persons with weakened immune systems—to not eat raw sprouts as a way to reduce the risk of foodborne illness. All sprouts should be cooked thoroughly before eating to reduce the risk of illness.

Resources

Council for Agricultural Science and Technology. **Food Safety and Fresh Produce: An Update.**

Available at <http://www.cast-science.org/publications.asp>

Food and Drug Administration. **Draft Guidance for Tomatoes, Leafy Greens, and Melons.**

Available at <http://www.fda.gov/Food/FoodSafety/Product-SpecificInformation/FruitsVegetablesJuices/FDAProduceSafetyActivities/ocm174086.htm>

Food and Drug Administration. **Safe Handling of Raw Produce and Fresh-Squeezed Fruit and Vegetable Juices.**

Available at <http://www.cfsan.fda.gov/~dms/prodsafe.html>

National Restaurant Association. **Guidelines on How to Keep Salad Bars Safe.**

Available at http://www.restaurant.org/foodsafety/how_to_salad.cfm

U.S. Department of Agriculture. **Fresh Fruit and Vegetable Program Handbook.**

Available at <http://www.fns.usda.gov/cnd/FFVP/Resources/FFVPhandbookFINAL.pdf>

U.S. Department of Agriculture. **Fruits & Vegetables Galore: Helping Kids Eat More.**

Available at http://www.fns.usda.gov/TN/Resources/fv_galore.html

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NATIONAL FOOD SERVICE MANAGEMENT INSTITUTE,
The University of Mississippi; Telephone: 800.321.3054; Item number ET100-10





Handling Fresh Produce in Classrooms*

Guidance for School Nutrition Staff

Follow your school district's food safety plan for appropriate actions when temperature standards are not met.

- Wash hands thoroughly with soap and water prior to handling or serving fresh fruits and vegetables to students.**
- Pre-package cut produce into single-serve, closed or covered containers or individually sealed bags.
- Consider packaging whole produce, such as oranges, apples, plums, etc, in bags or wrap.
- Provide condiments, such as ranch or yogurt dip, in single-serve portions to minimize cross-contamination.
- Provide wrapped, disposable utensils to students, if needed.
- Deliver produce to classrooms immediately prior to service.
- Use a clean, sanitized, and calibrated thermometer to check food temperatures. Cut produce should be 41°F or below. Record produce temperatures when delivered to the classroom.
- Use coolers with ice, ice packs, or mobile refrigerated carts to keep produce cold if holding it in classrooms prior to service.
- Return to classrooms to pick up leftover produce after service.
- Discard all leftover cut produce, such as veggie sticks, sliced apples, sliced oranges, or melon.
- Wash all leftover unpackaged whole produce, such as apples or pears, if serving it again.
- Train classroom teachers and staff at the beginning of each school year about hand-washing, controlling time/temperature, and preventing cross contamination.

*These best practices are based on the 2009 FDA Food Code. Follow the food code for your local or state jurisdiction. Consult with your local health department if you have any questions. www.fda.gov/Food/FoodSafety/RetailFoodProtection/FoodCode/FoodCode2009/default.htm

**For hand washing information refer to the National Food Service Management Institute's resource, *Wash Your Hands: Educating the School Community*: www.nfsmi-web01.nfsmi.olemiss.edu/ResourceOverview.aspx?ID=118





Handling Fresh Produce in Classrooms, continued

Guidance for Teachers and Aids

- Wash hands thoroughly with soap and water prior to handling or serving fresh fruits and vegetables to students.*
- Allow time for students to wash their hands with soap and water prior to eating fresh produce, if possible.
- Use hand sanitizers if soap and water are not available. Hand sanitizers alone kill most, but not all, harmful microorganisms.
- Keep produce cold, or serve produce as soon as possible after it is delivered to the classroom.
- Do not serve any cut produce that has been held at room temperature for more than 2 hours or above 90 °F for more than one hour.**
- Distribute produce or allow students to select pre-packaged produce to minimize potential contamination.
- Discard all leftover fresh-cut produce, such as veggie sticks, sliced apples, sliced oranges, or melon.

*For hand washing information refer to the National Food Service Management Institute's resource, *Wash Your Hands: Educating the School Community*: www.nfsmi-web01.nfsmi.olemiss.edu/ResourceOverview.aspx?ID=118

**Source: The Partnership for Food Safety Education. www.fightbac.org/safe-food-handling/chill



United States
Department of
Agriculture

Food and
Nutrition
Service

3101 Park
Center Drive
Alexandria, VA
22302-1500

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SUBJECT: Teacher Modeling in the Fresh Fruit and Vegetable Program (FFVP)

TO: Regional Directors
Special Nutrition Programs
All Regions

State Directors
Child Nutrition Programs
All States

In response to several inquiries, this memorandum provides guidance on the allowable consumption of FFVP fruits and vegetables by teachers.

We realize that teachers can play a valuable role in modeling fruit and vegetable consumption. Therefore, we are allowing schools to allow teachers to consume fruits and vegetables as part of the FFVP under the following conditions:

- Only teachers who are directly responsible for serving the fruit and/or vegetable to their students in a classroom setting may partake of the fruit and/or vegetable.
- The program is not available to the general teacher population and other adults in the school.
- Teachers choosing to participate with their students are strongly encouraged to include a nutrition education component to enhance their positive role modeling.
- No additional FFVP funds will be provided. Schools must stay within their per student allocation.

Please note that this policy does not allow teacher or administrator fruit baskets, which were incorrectly purchased by some schools for promotional purposes when FFVP was first implemented.

This memorandum supersedes the policy set forth on this topic in the revised FFVP guidance manual published in August 2010. We will update the guidance manual and post the new version on the website soon.

AN EQUAL OPPORTUNITY EMPLOYER

Regional Directors
State Directors
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State agencies should contact their regional office for additional questions or concerns. Regional offices may contact Mara McElmurray at 703-305-2688 for further assistance

Original Signed

Cindy Long
Director
Child Nutrition Division

Storing Fresh Produce

Refrigerators should maintain a temperature of 41 °F, or less, but temperatures inside a refrigerator can range from colder (32 °F) to warmer (41 °F), depending on the location. Colder temperatures are found in the back and warmer temperatures in the front, near the door. Some kinds of produce should be stored at warmer temperatures near the door for best quality. Location of fruits and vegetables is important because fruits, in general, produce ethylene gas, which fosters natural ripening, but it also can cause most vegetables and a few non-ethylene producing fruits to deteriorate more quickly and develop undesirable characteristics. Ideally, ethylene-producing fruits should be stored in the refrigerator as far from ethylene-sensitive fruits and vegetables as possible.

These items should not be refrigerated. Store ideally between 60 °F and 70 °F.

Bananas

Sweet Potatoes

Potatoes

Dry Onions

